Department of the Interior, Bureau of Land Management

Roswell Field Office
2909 W. Second Street
Roswell, New Mexico 88201

Project: Jervis "AYB" Federal #2
Location: Section: 11, T. 8 S., R. 26 E.
Applicant: Yates Petroleum Corporation
Roswell Field Office: (505) 627-0272

EA Log Number: NM-510-05-114B
Lease Serial Number: NM-14293
File Code: 3160

Finding of No Significant Impact

Impact identification and analysis of approving the project proposal and/or alternative(s) has been completed. A complete and comprehensive environmental analysis has been conducted. Completion of the environmental assessment, along with implementation of required stipulations and/or mitigating measures outlined in the environmental assessment and Application for Permit to Drill (APD) conditions of approval, will result in (projected) impacted resources values being restored to pre-project conditions and/or acceptable post-project standards. Further analysis in an environmental impact statement is not needed.

Decision Record

Based upon the analysis, the proposed Jervis "AYB" Federal #2 well, located in Section 11, T. 8 S., R. 26 E., 660′ FSL &1140′ FEL, is approved. This decision incorporates mitigation measures outlined in the environmental assessment, lease stipulations and APD conditions of approval, which will mitigate the unavoidable long and short-term impacts of this action.

The Bureau of Land Management's approval of the APD does not relieve the lessee and operator from obtaining required authorizations from the private surface owner.

Rational: The amount of new long-term disturbance will be limited to the well pad and access road. Short-term impacts will last approximately one growing season or until there is successful plant growth on the rehabilitated portion.

The Bureau of Land Management staff has reviewed the environmental assessment and identified site-specific mitigation measures to avoid or minimize surface impacts resulting from the construction of this project. The well pad and access road will remain as long term impacts. The cumulative impacts to the environment from existing and new development have been identified. During construction activities, machinery emissions, disturbed ground, drilling and construction equipment will result in short-term visual impacts. These impacts will be minimized by a rapid construction schedule and site restoration.

The Bureau of Land Management has developed a visual resource management (VRM) classification system designed to enhance visual qualities and describe degrees of modification to the landscape. The proposed project area is classified as a class III VRM. The III VRM allows for major modifications of the existing landscape and the level of change in the basic landscape from his management level can be high.

A cultural and historic resource category 3 inventory was conducted on June 27th, 2002. A total of 13.7 acres of Federal land and 14.6 acres of private land were inventoried for this proposed well pad and access road. No sites were recorded that could be impacted. A cultural clearance was granted on 12/18/06.

The operator would be allowed to drill this well as part of the further development of, and in accordance with, terms of their Federal lease.

A bond is required for all Federal leases. The bond must guarantee performance and compliance with the lease terms and cover all liabilities arising from, or related to drilling operations on a Federal lease including the restoration of any land or surface waters adversely affected by lease development.

Production history in the Permian Basin has demonstrated that there are no unique or unknown risks. The effects of oil and gas exploration and production are known, and based on experience, mitigation measures and stipulations have been developed to avoid, minimize or eliminate impacts.

The effects on the human environment have not been controversial in the past and the public has not voiced opposition to new wells being drilled in the area.

Secondary effects on soils, erosion, vegetation, cultural resources, wildlife habitat and recreation resources were considered. Partial reclamation will occur during the production phase and full reclamation will occur after final abandonment. Residual impacts that remain after mitigation measures and implemented are found acceptable.

This proposed action is in compliance with the Roswell Resource Management Plan and Final Environmental Management Plan that was approved October 10, 1997. These plans have been reviewed to determine if the proposed action conforms with land-use planning terms and conditions required by 43 CFR 1610.5. County and local planning: No land-use planning or zoning exists in Chaves County that will affect this action.

Stipulations

Mitigating measures were considered and analyzed in the Environmental Assessment. Based on impact analysis, specific stipulations and/or mitigating measures have been selected and are attached to the approved APD/Sundry. The applicant is responsible for implementing these mitigating measures to prevent and/or reduce impacts projected to occur during and after project completion.

Administrative Review and Appeal: Under BLM regulations, this Decision Record (DR) is subject to administrative review in accordance with 43 CFR 3165. Any request for administrative review of this DR must include information required under 43 CFR 3165.3(b) (State Director Review), including all supporting documentation. Such a request must be filed in writing with the State Director, Bureau of Land Management, 1474 Rodeo Road, Santa Fe, NM 87505, no later than 20 business days after this DR is received or considered to have been received.

Any party who is adversely affected by the State Director's decision may appeal that decision to the Interior Board of Land Appeals, as provided in 43 CFR 3165.4.

/s/Richard Hill 2/20/07

Prepared by:_____Date_____

Environmental Protection Specialist

/s/Larry D. Bray 2/21/07

Approved by:_____Date_____

Assistant Field Manager, Lands & Minerals

BUREAU OF LAND MANAGEMENT
ROSWELL FIELD OFFICE

ENVIRONMENTAL ASSESSMENT # NM-510-05-114B FOR
Jervis "AYB" Federal #2

1.0 Introduction

Yates Petroleum Corporation has filed an application to drill the Jervis "AYB" Federal #2 gas well in Section 11, T. 8 S., R. 26 E..

This site-specific analysis tiers into and incorporates by reference the information and analysis contained in the Roswell Resource Area Proposed Resource Management Plan Final Environmental Impact Statement (PRMP/FEIS). This document is available for review at the Roswell Office. This project EA addresses site-specific resources and/or impacts that are not specifically covered within the PMP/FEIS, as required by the National Environmental Policy Act of 1969 (NEPA), as amended (Public Law 91-90, 42 U.S.C. 4321 et seq.).

1.1 Purpose and Need

The purpose for the proposal is to define and produce oil or natural gas on one or more valid Federal and gas mineral leases issued to the applicant by the BLM. It is the policy of the BLM to make mineral resources available for disposal and to encourage development of mineral resources to meet National, regional, and local needs. The Mineral Leasing Act of 1920 (MLA), as amended [30 USC 181 et seq.], authorizes the BLM to issue oil and gas leases for the exploration of oil and gas, and permit the development of those leases. The existing lease is a binding legal contract that allows development of the mineral by the applicant. An approved Application for Permit to Drill (APD), issued by the BLM, would authorize the applicant to construct and drill the proposed wells.

1.2 Conformance with Applicable Land Use Plan and Other Environmental Assessments

Pursuant to 40 Code of Federal Regulations (CFR) 1508.28 and 1502.21, this site-specific EA tiers to and incorporates by reference the information and analysis contained in the Roswell Resource Area Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS, BLM [January 1997]), which was approved as the Final Resource Management Plan for the Roswell Field Office (RFO) of the BLM by the Record of Decision (ROD) signed October 10, 1997. The PRMP/FEIS and ROD are available for review at the Roswell Field Office, Roswell, New Mexico. This EA addresses the resources and impacts on a site-specific basis as required by the National Environmental Policy Act (NEPA) of 1969, as amended (Public Law 91-90, 42 USC 4321 et seq.). The proposed project would not be in conflict with any State, local, or county plans.

1.3 Federal, State or Local Permits, Licenses or Other Consultation Requirements

Under Section 402 of the Clean Water Act (as amended), the U.S. Environmental Protection Agency (EPA), was directed to develop a phased approach to regulate storm water discharges under the National Pollutant Discharge Elimination System (NPDES) program. Industrial activities disturbing land may require permit coverage through a NPDES storm water discharge. Depending on the acreage disturbed, either a Phase I industrial activity (5 or more acres disturbance) or a Phase II small construction activities (between 1 and 5 acres disturbance) permit may be required. Additionally, an U.S. Army Corps of Engineers Section 404 permit for the discharge of dredge and fill materials may also be required. Additionally, a New Mexico Surface Water Quality Bureau 401 certification may also be required under a U.S. Army Corps of Engineers Section 404 permit. Operators are required to obtain all necessary permits and approvals prior to any disturbance activities.

Roswell Field Office staff reviewed the proposed action and determined it would be in compliance with threatened and endangered species management guidelines outlined in the 1997 Biological Assessment (Cons. #2-22-96-F-102). No further consultation with the U.S. Fish and Wildlife Service is required.

Compliance with Section 106 responsibilities of the National Historic Preservation Act are adhered to by following the BLM – New Mexico State Historic Preservation Officer protocol agreement, which is authorized by the National Programmatic Agreement between the *BLM*, the *Advisory Council on Historic Preservation*, and the *National Conference of State Historic Preservation Officers,* and other applicable BLM handbooks.

Additionally, the Operator is required to:

- Comply with all applicable Federal, State and local laws and regulations.
- Obtain the necessary permits for the drilling, completion and production of these wells including water rights appropriations, the installation of water management facilities, water discharge permits, and relevant air quality permits.
- Certify that a Surface Use Agreement has been reached with private landowners where required.

2.0 Alternatives Including the Proposed Action

2.1 Alternative A - No Action

The BLM NEPA Handbook (H-1790-1) states that for EAs on externally initiated proposed actions, the No Action Alternative generally means that the proposed activity will not take place. This option is provided in 43 CFR 3162.3-1 (h) (2). This alternative would deny the approval of the proposed application, and the current land and resource uses would continue to occur in the proposed project area. No mitigation measures would be required.

Under the terms of valid Federal mineral leases, the lessee has the right to develop mineral resources. Other laws, regulations, and policy include provisions for the economic development of existing leases. By Federal law, the government must abide by the terms, conditions, and provisions agreed to when leases were issued. In the Council of Environmental Quality regulations (40 CFR 1500.3), it states that parts 1500-1508 of this title provide regulations applicable to and binding on all Federal agencies for implementing the procedural provisions of the National Environmental Policy Act of 1969…" except where compliance would be inconsistent with other statutory requirements".

The No Action Alternative is presented for baseline analysis of resource impacts.

2.2 Alternative B Proposed Action

Yates Petroleum Corporation submitted a Sundry Notices and Reports on Wells for the Jervis "AYB" Federal #2 on 10/23/06 to change the access road and well pad location entirely from the originally proposed project. Yates Petroleum Corporation submitted an Application for Permit to Drill Jervis "AYB" Federal #2 on 6/14/06. Yates Petroleum Corporation submitted a Notice of Staking on 9/12/05, to drill the Jervis "AYB" Federal #2 gas well.

The proposed road is approximately 6,859.5 feet in length, beginning from Highway 70 to the proposed well pad. Of the 6, 859.5 feet, approximately 6,500 feet is existing road and 359.5 feet is new access road construction, and about 859.5 feet of road would cross public land. The construction of the new access road would begin from an existing road and would access the southwest corner of the proposed well pad.

The roads would have a driving surface (travelway) of 14 feet, with a maximum 30-foot wide surface disturbance area for the road construction. All other existing access roads would be maintained in a good or better condition than those existing at the commencement of operations.

2. A review of records shows that a lease road right-of-way NM-107619 already exists. The proposed new road extension is located on lease. Therefore a new right-of-way or right-of-way amendment is not required for this APD.

3. The construction of the proposed well pads for each well is 325 feet long by 185feet wide (plus 125' X 75'). The construction of the reserve pit would be about 175 feet by 150 feet and dug 4 feet below ground level. The reserve pit would be located on the west side of the well pad. Standard oilfield construction equipment consisting of; track-type tractors, motor graders, dump trucks, and water trucks would be used to construct the access road and well pad. A rotary drilling rig would be used to drill the well to a depth of 6,500 feet. Associated production facilities (e.g., pipeline, separator, storage tanks, etc.) would be installed during the production phase of this well.

Proposed Well Information:

Well Name	Number	Township	Range	Section	Lease Number	Date Lease Issue
Jervis "AYB" Federal	2	8 S.	26 E.	11	NM-14293	08/12/1971

County: Chaves

Applicant: Yates Petroleum Corporation

Surface Owners: Bureau of Land Management

2.3 Alternative

Modifications, or alternatives, to the original proposal received from the operator, were identified as the result of the preapproval onsite inspection(s) (original road & pad proposal 10/5/05) (new road & pad proposal 11/15/06). At the on-sites, all areas of proposed surface disturbance were inspected to ensure that potential impacts to natural resources would be minimized. Changes were made as described below to alleviate or minimize environmental impacts. These changes may include the following: rerouting of access roads; and moving, modifying, mitigating, or dropping from further consideration well locations, pipelines, discharge points and other water management control structures. Alternatives to the different aspects of the proposed action are always considered and applied as preapproval changes, site specific mitigation and/or Conditions of Approval, if they will alleviate or minimize environmental impacts of the operator's proposal. The specific changes identified for the (Jervis "AYB" Federal #2) are listed below under 2.3.1:

Changes as a result of the on-sites:

The access road was rerouted because of intensive archaeology (07-R-006-A) on the route of the originally proposed access road.

The well pad was moved from the originally proposed footage; cancelled 1980´ FSL & 660´ FEL to the new pad location footage; 660´ FSL & 1140´ FEL. The well pad was moved 1320´ south & 480´ west in order to safeguard archaeological sites from construction disturbances.

The above changes and mitigation measures to the proposed action resulting from the on-site will be analyzed in Alternative C. **NOTE: The entire access road and well pad were moved to a new location then originally proposed and no environmental issues were encountered on the new road and pad.**

2.4 Alternatives Considered But Not Analyzed In Detail

Relocate the Proposed Action:

The well location is determined on the basis of subsurface geologic information. No other alternative location would have significantly fewer impacts than, or have a clear advantage over, the projected location. Therefore, the alternative of changing the location involved in this action is not analyzed further in this EA.

3.0 Description of Affected Environment

This section describes the environment that would be affected by implementation of the alternatives described in Section 2. Aspects of the affected environment described in this section focus on the relevant major resources or issues. Certain critical environmental components require analysis under BLM policy. These items are included below in Table 3.0, found as the first page of this document. Following the table, only the aspects of the affected environment that are potentially impacted are described.

3.1 Air Quality

The area of the proposed action is considered a Class II air quality area. A Class II area allows moderate amounts air quality degradation. The primary sources of air pollution are dust from blowing wind on disturbed or exposed soil and exhaust emissions from motorized equipment.

3.2 Areas of Critical Environmental Concern (ACECs)

The proposed action would not be located within any ACEC presently designated by the RMP.

3.3 Cultural Resources

A cultural survey, 02-R-059-A revealed no archeological or historic sites on the new road route and proposed well pad

3.4 Native American Religious Concerns

A review of existing information indicates the proposed action is outside any known Traditional Cultural Property.

3.5 Environmental Justice

Executive Order 12898 requires Federal agencies to assess projects to ensure there is no disproportionately high or adverse environmental, health, or safety impacts on minority and low-income populations.

3.6 Farmlands, Prime or Unique – Not Present

3.7 Floodplains – Non-present

3.8 Invasive, Non-native Species

There are no known populations of invasive or noxious weed species on the proposed access roads and well pads.

Infestations of noxious weeds can have a disastrous impact on biodiversity and natural ecosystems. Noxious weeds affect native plant species by out-competing native vegetation for light, water and soil nutrients. Noxious weeds cause estimated losses to producers $2 to $3 billion annually. These losses are attributed to: (1)

Decreased quality of agricultural products due to high levels of competition from noxious weeds; (2) decreased quantity of agricultural products due to noxious weed infestations; and (3) costs to control and/or prevent the noxious weeds.

Further, noxious weeds can negatively affect livestock and dairy producers by making forage either unpalatable or toxic to livestock, thus decreasing livestock productivity and potentially increasing producers' feed and animal health care costs. Increased costs to operators are eventually borne by consumers.

3.9 Threatened or Endangered Species

Under Section 7 of the Endangered Species Act of 1973 (as amended), the BLM is required to consult with the U.S. Fish and Wildlife Service on any proposed action which may affect Federal listed threatened or endangered species or species proposed for listing. RFO reviewed and determined the proposed action is in compliance with listed species management guidelines outlined in the 1997 Biological Assessment (Cons. #2-22-96-F-102). No further consultation with the Service is required.

There are no known threatened or endangered species of plant or animals within the project area. The list of federal threatened, endangered and candidate species reviewed for this EA can be found in Appendix 11 of the Roswell Approved RMP (AP11-2).

3.10 Wastes, Hazardous or Solid

No waste material will be removed from the project area and upon reclamation of the reserve pit the NMOCD rules will be imposed and the reserve pit contents will be encapsulated.

3.11 Water Quality

Surface;

Surface water within the area is affected by geology, precipitation, and water erosion. Factors that currently affect surface water resources include livestock grazing management, oil and gas development, recreational use and brush control treatments. No perennial surface water is found on public land in the area. Ephemeral surface water within the area may be located in tributaries, playas, alkali lakes and stock tanks.

Ground;

Groundwater within the area is affected by geology and precipitation. Factors that currently affect groundwater resources in the area include livestock grazing management, oil and gas development, groundwater pumping, and possible impacts from brush control treatments. Most of the groundwater in the area is used for industrial, rural, domestic and livestock purposes.

3.12 Wetlands /Riparian Zones - None

3.13 General Topography/Surface Geology

The topographic characteristics and/or regional setting of the project area are: The area of the proposed well is on a flat level ground. It is on a flat ridge top that will accommodate the drilling operations of the well.

3.14 Mineral Resources

Construction material (caliche/gravel) for surfacing the access road and well pad could be obtained by the operator from a federal pit in the SE¼NW¼ of Section 04, T. 08 S., R. 26 E., Chaves County, New Mexico.

3.15 Paleontology - This undertaking is unlikely to affect paleontological resources.

3.16 Soil

The ***Soil Survey of Chaves County, New Mexico, Northern Part (USDA Soil Conservation Service 1980)*** was used to describe and analyze impacts to soils from the proposed action. The soil map units represented in the project area are:

Pajarito-Bluepoint complex, 0 to 5 percent slopes (PBB) Permeability of the Pajarito soil is moderately rapid. Runoff is medium and the hazard of water erosion is moderate and the hazard of soil blowing is high. Permeability of the Bluepoint soil moderately rapid. Runoff is very slow and the hazard of water erosion is slight and the hazard of soil blowing is high.

Torriorthents-Philder-Rock outcrop assoctiation, 0 to 30 percent slopes (TPD) Permeability of the Torriorthents soil is moderately rapid. Runoff of the soil is medium to rapid and the hazard of water erosion is high and the hazard of soil blowing is high. Permeability of the Philder soil moderate. Runoff of the soil is rapid and the hazard of water erosion is high and soil blowing is high.

3.17 Watershed – Hydrology

The watershed and hydrology in the area is affected by land and water use practices. The degree to which hydrologic processes are affected by land and water use depends on the location, extent, timing and the type of activity. Factors that currently cause short-lived alterations to the hydrologic regime in the area include livestock grazing management, recreational use activities, groundwater pumping and also oil and gas developments such as well pads, permanent roads, temporary roads, pipelines, and powerlines.

3.18 Vegetation

This lease is within the Mixed Desert Shrub plant community as identified in the Roswell Resource Management Plan/Environmental Impact Statement (RMP/EIS). Appendix 11 of the Draft RMP/EIS describes the Desired Plant Community (DPC) concept and identifies the components of each community. The mixed desert shrub community is primarily made up of desert grasses, shrubs and cacti. The predominant shrub species include creosote *(Larrea tridentata),* mesquite *(Prosopis glandulosa),* tarbush *(Forensic cernua),* saltbush *(Atriplex canescens),* little leaf sumac *(Rhus microphylla)*, sage *(Artemesia* spp.), yucca *(Yucca* spp.) and javalinabush *(Condalia* spp.) Common cacti encountered are claret cup *(Echinocereus triglochidiatus*), cholla *(Opuntia imbricata),* prickly pear *(Opuntia phaeacantha),* and eagle claw *(Echinocactus horizonthalonius)*. Forbs include plantain *(Plantago* spp.), globemallow *(Sphaeralcea* spp.), bladderpod *(Lesquerella* spp.) and buckwheat *(Eriogonum* spp.). Grasses include fluffgrass *(Dasyochloa pulchella)*, sideoats grama *(Bouteloua curtipendula)*, black grama *(Bouteloua eriopoda)*, burrograss *(Scleropogon brevifolius),* dropseed *(Sporobolus* spp.), tobosa *(Pleuraphis mutica)* and blue grama *(Bouteloua gracilis).* Additional species included are gyp grama (*Bouteloua breviseta)*, coldenia *(Coldenia* spp.), gyp muhly *(Muhlenbergia s*pp.) and Mormon tea *(Ephedra* spp.). Biological crusts also make up a major portion of this soil surface where gyp inclusions may occur; these crusts are indicative of gyp outcrop soil and protect the surface from undue erosion.

The Ecological Site Description for the proposed well pad and access road is [SD-3 Sandy (Southern Desertic Basins, Plains & Valleys)].

3.18 Livestock Grazing/Range

The access roads and well pads are located on BLM grazing allotment #65025 Railroad Mtn. permitted to Mark Marley, P.O. Box 1658, Roswell, NM 88202**.** This grazing permit authorizes 154 Cattle on 4,798 acres public land ; 51% public land for a total of 944 AUM's yearlong.

3.20 Wildlife

3.21 Special Status Species

In accordance with BLM Manual 6840, BLM manages certain sensitive species not federally listed as threatened or endangered in order to prevent or reduce the need to list them as threatened or endangered in the future. Included in this category are State listed endangered species and Federal candidate species which receive no special protections under the Endangered Species Act. Special status species with potential to occur in the proposed project area are listed in Table 3.22.1.

There are no known special status species of plant or animals within the project area.

3.22 Visual Resources

Visual Resource Management (VRM) on public land is conducted in accordance with BLM Handbook 8410 and BLM Manual 8411.

The proposed actions are located in scenic areas along the Pecos River corridor/U.S. 70 corridor designated VRM Class III. The areas are also located within the Haystack Mountain Off Highway Vehicle (OHV) Area.

The areas present a winter gray setting and in warm months, with foliage, a gray to gray-green color pattern. BLM recommends all facilities to be painted ***Olive Drab 18-0622 TPX. (colors derived from "PANTONE" for architecture and interiors color guide) Supplemental Environmental Color chart.***

3.23 Recreation

The proposed actions are within Haystack Mountain OHV Area. The OHV area was designated in the 1997 Roswell Resource Management Plan. A recreation Area Management Plan and environmental assessment was developed in 1999. The areas are actively used year round by OHV enthusiasts, Mountain Bikers and for casual recreation such as hiking, bird watching, and other recreation activities. The areas have approximately 20 miles of designated OHV trails that have been established and signed.

3.24 Cave/Karst:

While the proposed actions are located in the Medium Potential Karst Area, no surface cave/karst features were observed in the immediate vicinity of the proposed actions.

3.25 Public Health and Safety

The project will not be detrimental to public health. The operator will insure that all phases of the project operations are conducted in workman like manner. Precautionary procedures and/or measures will be strictly adhered to in order provide a safe and sound working environment for the life of the well.

4.0 Environmental Consequences and Proposed Mitigation Measures

No Action Alternative

Under the No Action Alternative, the proposed well would not be drilled. There would be no new impacts from oil and gas production to the resources. The No Action Alternative would result in the continuation of the current land and resource uses in the project area and is used as the baseline for comparison of alternatives.

Alternative B

Under Alternative B, the Proposed Action, **include the proposed changes made under a Sundry Notice to move the entire access road and well from its previously proposed location is the preferred acceptable (02-R-059-A) alternative**. And the well would be drilled as originally proposed, without changes to reduce the potential impact to the environment. A summary of potential surface disturbance is presented in Table 4.0. Descriptions of potential impacts on individual resources for action alternatives is presented in the following text. Also described are mitigation measures that could be incorporated by the BLM where appropriate as Conditions of Approval attached to the permit. Because the action now incorporates changes, this alternative will not be evaluated further in Chapter 4. The new access road and well pad location do not have any environmental issues that cannot be mitigated in the COAs that would rule out the approval of the APD under alternative B and the new well will be drilled as originally proposed.

Alternative C - Preferred Alternative

A summary of potential surface disturbance is presented in Table 4.0. Descriptions of potential impacts on individual resources for action alternatives is presented in the following text. Also described are mitigation measures that could be incorporated by the BLM where appropriate as Conditions of Approval attached to the permit. The changes to the proposed action which resulted in development of Alternative C as the preferred alternative have reduced the potential impact to the environment which will result from this action.

The original proposal was moved. The changes made on the access road and well pad that were originally proposed required the protection of archaeological sites (07-R-006-A) that were encountered helped put major emphasis on the archaeological issues by making the company move the road and pad entirely from the original APD proposed sites. The well pad was originally proposed to be drilled 1980´ FSL & 660´ FEL, NESE, UNIT I and was moved to its present location of 600´ FSL & 1140´ FEL, SESE, UNIT P, Section 11, T. 8 S., R. 26 E..

Table 4.0 Summary of Disturbance

Facility	Number or Miles	Acreage of Disturbance	Duration of Disturbance
Well Pad		2.2	Long Term
New Road Construction	0.07	0.1	Long Term

Short-term impacts are those which can be stabilized or mitigated rapidly (within 5 years). Long-term impacts are those that would substantially remain for more than 5 years.

4.1 Air Quality

4.1.1 Direct and Indirect Impacts

Air quality would temporary be directly impacted with pollution from exhaust emissions, chemical odors, and dust that would be caused by the motorized equipment used to construct the access road, well pad, and by the drilling rig that will be used to drill the well. Dust dissemination would discontinue upon completion of the construction phase of the access road and well pad. Air pollution from the motorized equipment would discontinue at the completion of the drilling phase of the operations. The winds that frequent the southeastern part of New Mexico generally disperse the odors and emissions. The impacts to air quality would be greatly reduced as the construction and drilling phases are completed. Other factors that currently affect air quality in the area include dust from livestock herding activities, dust from recreational use, and dust from use of roads for vehicular traffic.

4.1.2 Mitigation -NONE

4.2 Areas of Critical Environmental Concern – Not present

4.3 Cultural Resources

4. 3.1 Direct and Indirect Impacts

There should be no direct or indirect impacts from the construction of this well pad and access road.

4.4 Native American Religious Concerns

4.4.1 Direct and Indirect Impacts

To date, the area to be affected by project construction has not been identified by interested tribes as being important to them.

4.5 Environmental Justice

4.5.1 Direct and Indirect Impacts

No minority or low income populations would be directly affected in the vicinity of the proposed action. Indirect impacts could include impacts due to overall employment opportunities related to the oil and gas and service support industry in the region, as well as the economic benefits to State and County governments related to royalty payments and severance taxes. Other impacts could include a small increase in activity and noise disturbance in areas used for grazing, wood gathering, or hunting. However, these impacts would apply to all public land users in the project area.

4.8 Invasive, Non-native Species

4.8 .1 Direct and Indirect Impacts

The construction of an access road and well pad may unintentionally contribute to the establishment and spread of noxious weeds. Noxious weed seed could be carried to and from the project areas by construction equipment, the drilling rig and transport vehicles. The main mechanism for seed dispersion on the road and well pad is by equipment and vehicles that were previously used and or driven across or through noxious weed infested areas. The potential for the dissemination of invasive and noxious weed seed may be elevated by the use of construction equipment typically contracted out to companies that may be from other geographic areas in the region. Washing and decontaminating the equipment prior to transporting onto and exiting the construction areas would minimize this impact.

Impacts by noxious weeds will be minimized due to requirements for the company to eradicate the weeds upon discovery. Multiple applications may be required to effectively control the identified populations.

4.8 .2 Mitigation

In the event noxious weeds are discovered during construction of the access road and well pad, measures will be taken to mitigate those impacts.

4.9 Threatened or Endangered Species

Under Section 7 of the Endangered Species Act of 1973 (as amended), the BLM is required to consult with the U.S. Fish and Wildlife Service on any proposed action which may affect Federal listed threatened or endangered species or species proposed for listing. RFO reviewed and determined the proposed action is in

compliance with listed species management guidelines outlined in the 1997 Biological Assessment (Cons. #2-22-96-F-102). No further consultation with the Service is required.

There are no known threatened or endangered species of plant or animals within the project area. The list of federal threatened, endangered and candidate species reviewed for this EA can be found in Appendix 11 of the Roswell Approved RMP (AP11-2).

4.10 Wastes, Hazardous or Solid

4.10.1 Direct and Indirect Impacts

The lease parcels fall under environmental regulations that impact exploration and production waste management and disposal practices and impose responsibility and liability for protection of human health and the environment from harmful waste management practices or discharges.

4.10.2 Mitigation

The NMOCD rules will be imposed and the reserve pit contents will be encapsulated.

4.11 Water Quality:

A. Surface;

4.11.1A Direct and Indirect Impacts

Surface disturbance from the construction of the well pad, access road, pipelines, and powerlines can result in degradation of surface water quality and groundwater quality from non-point source pollution, increased soil losses, and increased gully erosion.

Potential direct impacts that would occur due to construction of the well pad, access road, pipelines, and powerlines include increased surface water runoff and off-site sedimentation brought about by soil disturbance: increased salt loading and water quality impairment of surface waters; channel morphology changes due to road and pipeline crossings; and possible contamination of surface waters by produced water. The magnitude of these impacts to water resources would depend on the proximity of the disturbance to the drainage channel, slope aspect and gradient, degree and area of soil disturbance, soil character, duration and time within which construction activity would occur, and the timely implementation and success or failure of mitigation measures.

Direct impacts would likely be greatest shortly after the start of construction activities and would likely decrease in time due to natural stabilization, and reclamation efforts. Construction activities would occur over a relatively short period; therefore, the majority of the disturbance would be intense but short lived. Direct impacts to surface water quality would be minor, short-term impacts which may occur during storm flow events. Indirect impacts to water-quality related resources, such as fisheries, would not occur.

Petroleum products and other chemicals, accidentally spilled, could result in surface and groundwater contamination. Similarly, possible leaks from reserve and evaporation pits could degrade surface and ground water quality. Authorization of the proposed projects would require full compliance with BLM directives and stipulations that relate to surface and groundwater protection.

4.11.2A Mitigation

The use of a plastic-lined reserve pit would reduce or eliminate seepage of drilling fluid into the soil and eventually reaching groundwater. Spills or produced fluids (e.g., saltwater, oil, and/or condensate in the event of a breech, overflow, or spill from storage tanks) could result in contamination of the soil onsite, or offsite, and

may potentially impact surface and groundwater resources in the long term. The casing and cementing requirements imposed on the proposed well would reduce or eliminate the potential for groundwater contamination from drilling muds and other surface sources.

B. Groundwater;

4.11.1B Direct and Indirect Impacts

The useable ground-water could be contaminated by cross formation or intra-formational invasion of salt water whether from an aquifer or as produced (salt) water in association with hydrocarbons. In addition, drilling with mud systems containing toxic chemicals and other chemicals could possibly result in groundwater contamination through accidental leaks through casing or through reserve pits. The potash minerals Halite, Sylvite and other associated salts could also contaminate useable groundwater because of their solubility in the drilling fluids.

11.2B Mitigation

The casing and cementing requirements imposed on the proposed well would reduce or eliminate the potential for groundwater contamination from drilling muds and other surface sources. Drilling with air or fresh water mud systems eliminates contamination of the useable water by drilling mediums. Setting surface and/or intermediate casing below the last known useable water and cementing the casing to surface may reduce or eliminate the potential for groundwater contamination from drilling muds and other surface sources.

The use of a plastic-lined reserve pit would reduce or eliminate seepage of drilling fluid into the soil and eventually reaching groundwater. Spills or produced fluids (e.g., saltwater, oil, and/or condensate in the event of a breech, overflow, or spill from storage tanks) could result in contamination of the soil onsite, or offsite, and may potentially impact groundwater resources in the long term.

4.12 Wetlands/Riparian Zones - None

4.13 Wild and Scenic Rivers - Not Present

4.14 Wilderness - Not Present

4.15 General Topography/Surface Geology

The surface disturbance anticipated from the construction of the well pad and access road would have minimal impacts on the area of the operations. No major land or soil displacement would occur from the cradle to grave operations associated with drilling the well.

4.15.1 Direct and Indirect Impacts

Direct impacts would result from the removal of the surface soils during construction of the well pad and access road. The consequential earth moving activities would indirectly impact the vegetation and would cause the fragmentation of the surface habitat where small animals live in the project area. Surfacing of the access road and well pad will not be required to minimize the soil disturbing impacts.

4.15.2 Mitigation

The inclusion of mitigation measures to conserve the landscape as much as possible in the Conditions of Approval would lessen the impacts from the surface disturbance activities on this project.

4.16 Mineral Resources - Direct and Indirect Impacts

4.17 Paleontology- No impacts

4.18 Soil

4.18.1 Direct and Indirect Impacts

The construction of the access road, well pad, and reserve pit would physically disturb about 2.2 acres of topsoil and would expose the substratum soil. Direct impacts resulting from the oil and gas construction of the well pad, access road, and reserve pit include removal of vegetation, exposure of the soil, mixing of horizons, compaction, loss of top soil productivity and susceptibility to wind and water erosion. Wind erosion would be expected to be a minor contributor to soil erosion with the possible exception of dust from vehicle traffic. These impacts could result in increased indirect impacts such as runoff, erosion and off-site sedimentation. Activities that could cause these types of indirect impacts include construction and operation of well sites, access roads, gas pipelines and facilities.

Contamination of soil from drilling and production wastes mixed into soil or spilled on the soil surfaces could cause a long-term reduction in site productivity. Some of these direct impacts can be reduced or avoided through proper design, construction and maintenance and implementation of best management practices.

Additional soil impacts associated with lease development would occur when heavy precipitation causes water erosion damage. When water saturated segment(s) on the access road become impassable, vehicles may still be driven over the road. Consequently, deep tire ruts would develop. Where impassable segments are created from deep rutting, unauthorized driving may occur outside the designated route of the access road.

4.18.2 Mitigation

The operator shall stockpile the topsoil from the surface of the well pad which will be used for surface reclamation of the well pad. The impact to the soil would be remedied upon reclamation of the well pad when the stockpiled soil that was specifically conserved to establish a seed bed is spread over the well pad and vegetation re-establishes.

The reserve pit shall be recontoured and reseeded as described in the attached Conditions of Approval. Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation/restoration of the disturbed areas as described in the attached Conditions of Approval.

Road constructions requirements and regular maintenance would alleviate potential impacts to the access road from water erosion damage.

4.19 Watershed - Hydrology

4.19.1 Direct and Indirect Impacts

Construction and surface disturbance activities from the construction of the well pad, access road, pipelines, and powerlines can result in long term and short term alterations to the hydrologic regime. Peak flow and low flow of perennial streams, ephemeral, and intermittent rivers and streams would be directly affected by an increase in impervious surfaces resulting from the construction of the well pad and road. The potential hydrologic effects to peak flow is reduced infiltration where surface flows can move more quickly to perennial or ephemeral rivers and streams, causing peak flow to occur earlier and to be larger. Increased magnitude and volume of peak flow can cause bank erosion, channel widening, downward incision, and disconnection from the floodplain. The potential hydrologic effects to low flow is reduced surface storage and groundwater recharge, resulting in

reduced baseflow to perennial, ephemeral, and intermittent rivers and streams. The direct impact would be that hydrologic processes may be altered where the perennial, ephemeral, and intermittent river and stream system responds by changing physical parameters, such as channel configuration. These changes may in turn impact chemical parameters and ultimately the aquatic ecosystem.

Long term direct and indirect impacts to the watershed and hydrology would continue for the life of the well and would decrease once all well pad and road surfacing material has been removed and reclamation of the well pad, access road, pipelines, and powerlines has taken place. Short term direct and indirect impacts to the watershed and hydrology from access roads that are not surfaced with material would occur and would likely decrease in time due to reclamation efforts.

4.19.2 Mitigation

The operator shall stockpile the topsoil from the surface of the well pad which will be used for surface reclamation of the well pad. The reserve pit shall be recontoured and reseeded as described in the attached Conditions of Approval. Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation/restoration of the disturbed areas as described in the attached Conditions of Approval.

4.20 Vegetation

Direct and Indirect Impacts

The construction of the access road and well pad would remove about 2.2 acres of native vegetation. If it is a producing well, reclamation would not commence until the well is a depleted producer and plugged and abandoned. Vegetative recovery on the access road and well pad would depend on life of the well. Native vegetation would encroach on the well pad over time with only high traffic areas remaining unvegetated. If drilled as a dry hole and plugged, reclamation of the access road and well pad would immediately follow. Vegetative impacts would be short-term when the access road and well pad re-vegetate within a few years, and reclamation of the access road and well pad are successful.

4.20.2 Mitigation:

No impact to vegetation is anticipated. However measures will be taken in the event impacts are found.

4.21 Livestock Grazing:

4.21.1 Direct and Indirect Impacts

There would be some minor disruption of livestock grazing in the pasture, specifically on the well pad, during the construction and drilling phase of the well. Vehicle traffic would increase in the area, which may lead to conflicts with livestock.

4.21.2 Mitigation

If conflicts arise with livestock as a result of construction of the access road and/or well pad, measures will be taken to mitigate those conflicts in coordination with the allottee and Authorized Officer.

4.22 Special Status Species - None

4.23 Wildlife

4.23.1 Direct and Indirect Impacts

Some small wildlife species may be killed and their dens or nests destroyed during construction of the access road and well pad. The construction of the access road and well pad could cause fragmentation of wildlife habitat. The short-term negative impact to wildlife would occur during the construction phase of the operations would be due to noise and habitat destruction. In general, most wildlife species would become habituated to the new facilities. For other wildlife species with a low tolerance to activities, the operations on the well pad would continue to displace wildlife from the areas due to ongoing disturbances such as vehicle traffic and equipment maintenance. Upon abandonment of the wells, the areas would revegetate and wildlife would return to previous levels.

4.23.2 Mitigation

The conditions of approval would alleviate most losses of wildlife species, such as; netting storage tanks, installation or other modifications of cones on separator stacks, and timing stipulations.

4.24 Recreation

The proposed actions are located in phase 1 of the Haystack Mountain OHV Area. The Roswell RMP, Haystack Mountain Recreation Area Management Plan and Environmental assessment have set aside these areas for this type of recreational use. The planning process has also designated OHV trails within the boundary of these areas for recreational OHV use. The areas around the proposed action sites are primarily used by recreational visitors engaged in hunting, caving, sight seeing, driving for pleasure, off-highway vehicle use, and other recreational activities. Non-recreation visitors include gas industrial workers and ranchers.

4.24.1 Direct and Indirect Impacts

Approximately 20 miles of OHV trails have been designated by the BLM for OHV use. If a trail is obliterated by the construction phase of the proposed action the trail would be reconstructed by the applicant of the activity outside of the disturbed area to prevent OHV's from conflicting with the proposed action and for safety reasons. Designated rails that cross a lease roads should be brought up to the level of the road so that no obstruction, ditch or low spot exists on the trail that would tend to dump or make an OHV crash into the obstruction or ditch in the road. The trails in question are designated trails in the Haystack Mountain Recreation Area Management Plan and environmental Assessment and have been signed and maintained by the BLM since 1999.

A fence is required to be constructed to protect visitors and OHV riders from entering the facilities on the well pad. The flow line from the well head to the separator should be buried underground to prevent visitors from driving over it and damaging the flow line or themselves. During the drilling phase the perimeter of the oil and gas pad would be fenced with barbed wire fence

4.24.2 Mitigation

OHV trails obliterated by construction of the roads or other facilities by the applicant would be rebuilt in a new location specified by the BLM.

Where ever a lease road crosses over a designated OHV trail, the holder shall construct the lease road level with the OHV trail crossing or bring the level of the trail up to the surface of the road. The lease road shall be constructed so that the surface level of the lease road does not create an obstruction, ditch or low spot in the OHV trail. The surface levels at the crossing shall be maintained for as long as the lease road is in service.

A fence would be constructed around the oil and gas facilities, the fence would be constructed with bull wire that is four feet high to prevent the visitor from getting into the facility. The perimeter of the gas pads would be fenced with barbed wire and signed to prevent visitors from entering the pad areas during the drilling

operations. The flow line from the well head to the separator would be buried underground to promote safety within the pad areas during the production phase of the operations.

4.25 Visual Resources

The proposed actions are in the Pecos River and Highway 70 scenic corridor and are also located in the Haystack Mountain OHV Area. The VRM Classification is Class III.

Facilities, such as produced water, condensate or oil storage tanks that rise above eight feet, would provide a geometrically strong vertical and horizontal visual contrast in form and line to the characteristic landscape and vegetation, which have flat, horizontal to slightly rolling form and line. The construction of access roads, well pads and other ancillary facilities, other than facilities greater in height than eight feet, would slightly modify the existing areas visual resources.

The Class III objective is to: Partially retain existing landscape character. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate a casual observer's view. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Under visual resource Class III, the method for repeating the basic elements would be to remove strong vertical and horizontal contrast through use of low-profile facilities as reflected in the Roswell RMP (1997, p. AP1-4). Depending on the production nature of the well sites, multiple low-profile condensate and/or produced water tanks would be necessary to accommodate the projects.

4.25.1 Direct and Indirect Impacts

Through color manipulation, by painting well facilities to blend with the rolling to flat vegetative and/or landform setting with a gray-green to brownish color, the view is expected to favorably blend with the form, line, color and texture of the existing landscape.

4.25.2 Mitigation

The flat color Olive Drab 18-0622 TPX from the Supplemental Environmental Colors Chart is to be used on all facilities to closely approximate the vegetation within the setting. All facilities, including the meter building, would be painted this color.

4.26 Cave/Karst

While the proposed action is located in the *Medium Potential Karst Area*, no surface cave/karst features were observed in the immediate vicinity of the proposed actions.

4.27 Public Health and Safety

4.27.1 Direct and Indirect Impacts

The construction and drilling operations will be conducted in a safe workman like manner and no impacts are anticipated to occur when the operations are conducted in a professional constructive manner.

4.27.2 Mitigation - non-required

4.27 Cumulative Impacts

The leased area of the proposed action has been industrialized with oil and gas well development. The surface disturbance for each project that has been permitted has created a spreading out of land use fragmentation. The cumulative impacts fluctuate with the gradual reclamation of well abandonments and the creation of new additional surface disturbances in the construction of new access road and well pad. The on going process of restoration of abandonments and creating new disturbances for drilling new wells gradually accumulates as the minerals are extracted from the land. Preserving as much land as possible and applying appropriate mitigation measures will alleviate the cumulative impacts.

While it is likely that there will be no significant cumulative impact from the proposed actions, continued oil and gas development, and other surface-disturbing activities in these areas, may potentially have negative cumulative impacts on vegetation, soil, water, livestock, wildlife, and visual resources.

5.0 Consultation/Coordination

This section includes individuals or organizations from the public, public land users, the interdisciplinary team, and permittees that were contacted during the development of this document.

Table 5.1 Summary of Public Contacts Made During Preparation of Document and Interdisciplinary Team

Public Contact	Title	Organization	Present at Onsite?
Debbie Caffall	Regulatory Agent	Yates Petro. Corp.	PRESENT
Mark Marley – by phone	Rancher	BLM Allottee	Not present
ID Team Member	Title	Organization	Present at Onsite?
Richard G. Hill	Environmental Protection Specialist	RFO	PRESENT
Mike McGee	Hydrologist	RFO	present
Joseph Navarro	Range Mgmt. Spec.	RFO	present
Dan Baggao	Wildlife Biologist	RFO	present
Pat Flanary	Archaeologist	RFO	present
Paul Happel	Natural Resource Spec.	RFO	present
Bill Murry	Outdoor Recreation Plnr.	RFO	present

6.1 References

U.S. Department of the Interior, Bureau of Land Management. January 1997, *Proposed Resource Management Plan and Final Environmental Impact Statement*. Roswell, New Mexico.

U.S. Department of the Interior, Bureau of Land Management. October 10,1997, *Resource Management Plan Record of Decision*. Roswell, New Mexico.

6.0 Appendices

The Roswell Field Office; Well Location Map (Exhibit A), Well Drilling Requirements (Exhibit B), Conditions of Approval (Exhibit C), Permanent Resource Road Requirements (Exhibit D), Surface Restoration/Reclamation Requirements (Exhibit E), and the special requirements derived from this EA, would be applied to this proposed action to minimize the surface disturbance and conserve the surrounding landscape.

6.1.1 **APD**, COMPLETE

6.1.2 Authorities

Code of Federal Regulations (CFR)
40 CFR All Parts and Sections inclusive Protection of Environment, Revised as of July 1, 2001.
43 CFR, All Parts and Sections inclusive - Public Lands: Interior. Revised as of October 1, 2000.
U.S. Department of the Interior, Bureau of Land Management and Office of the Solicitor (editors). 2001. The Federal Land Policy and Management Act, as amended. Public Law 94-579.

6.1.3 Other Supporting Information

EXHIBIT B

WELL DRILLING REQUIREMENTS

OPERATORS NAME: **Yates Petroleum Corporation** LEASE NO.: **NM-14293**
WELL NAME & NO: **Jervis "AYB" Federal #2**
QUARTER/QUARTER & FOOTAGE: **SE¼SE¼ - 660' FSL & 1140' FEL**
LOCATION: **Section 11, T. 8 S., R. 26 E., NMPM**
COUNTY: **Chaves County, New Mexico**

I. GENERAL PROVISIONS:

A. The operator has the right of administrative review of these requirements pursuant to 43 CFR 3165.1(a).

B. The operator shall hereafter be identified as the holder in these requirements. The Authorized Officer is the person who approves the Well Drilling Requirements.

II. WELL PAD CONSTRUCTION REQUIREMENTS:

A. The BLM shall administer compliance and monitor construction of the access road and well pad. Notify **Richard G. Hill** at least **3** working days (72 Hours) prior to commencing construction of the access road and/or well pad. Roswell Field Office number **(505) 627-0247**.

B. Prior to commencing construction of the access road, well pad, or other associated developments, the holder shall provide the dirt contractor with **a copy of the approved APD signature page, a copy of the location map (EXHIBIT A), a copy of pages 1 & 2 from the Well Drilling Requirements (EXHIBIT B), and a copy of the Permanent Resource Road Requirements (EXHIBIT D).**

C. The holder shall stockpile the topsoil from the surface of the well pad. The topsoil on the **Jervis "AYB" Federal #2** well pad is approximate **6** inches in depth. Approximately **800** cubic yards of topsoil shall be stockpiled on the **Southwest** corner of the well pad, opposite the reserve pit.

D. **Reserve Pit Requirements:**

1. The reserve pit shall be constructed 175' X 150' on the north side of the well pad.

2. The reserve pit shall be constructed to a minimum depth of four (4) feet below ground level. The reserve pit shall be constructed, so that the cuttings in the reserve pit can be buried a minimum depth of three (3) feet below ground level. **See Exhibit E – Surface Reclamation/Restoration Requirements.**

3. A synthetic or fabricated liner **12** mil in thickness shall be used to line the reserve pit. The liner shall meet ASTM standards that are designed to be resistant to the reserve pit contents.

4. The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.

5. The reserve pit shall be constructed so as not to leak, break, or allow discharge of drilling muds. Under no circumstances will the reserve pit be cut to drain drilling muds on the well location.

6. The reserve pit shall not be located in any natural drainage.

7. The reserve pit shall be equipped to deter entry by birds, bats, other wildlife, and livestock, if the reserve pit contains any oil and/or toxic fluids.

8. Drilling muds shall be properly disposed of before the reserve pit is reclaimed. Drilling muds can be allowed to evaporate in the reserve pit or be removed and transported to an authorized disposal site. The reserve pit shall be backfilled when dry.

9. Dumping of junk or trash into the reserve pit is not allowed. Junk or trash shall be removed from within the reserve pit before the reserve pit is reclaimed. **Junk or trash shall not be buried in the reserve pit.**

E. Federal Mineral Materials Pit Requirements:

1. Caliche, gravel, or other related materials from new or existing pits on Federal mineral estate shall not be taken without prior approval from the authorized officer. Contact Jerry Dutchover at (505) 627 -0236.

2. Payment for any Federal mineral materials that will be used to surface the access road and the well pad is required prior to removal of the mineral materials.

3. Mineral Materials extracted during construction of the reserve pit may be used for development of the pad and access road as needed, for the Jervis "AYB" Federal #2 gas well only. Removal of any additional material on location must be purchased from BLM prior to removal of any material.

a. An optional mineral material pit may be constructed within the archaeologically cleared area. The mineral material removed in the process can be used for pad and access road construction. However, a mineral material sales contract must be purchased from the BLM prior to removal of any material.

F. **Well Pad Surfacing Requirement:**

Surfacing material on the well pad is not required. The holder can decide whether to surface the well pad.

G. **Cave Requirements:**

1. If, during any construction activities any sinkholes or cave openings are discovered, all construction activities shall immediately cease. Contact Larry Bray at (505) 627-0250.

2. The BLM Authorized Officer will, within 24 hours of notification in "A" above, conduct an on-the-ground field inspection for karst. At the field inspection the authorized field inspector will authorize or suggest mitigating measures to lessen the damage to the karst environment. A verbal order to proceed or stop the operation will be issued at that time.

III. WELL SUBSURFACE REQUIREMENTS:

A. GENERAL DRILLING REQUIREMENTS:

1. The Bureau of Land Management (BLM) Roswell Field Office is to be notified at (505) 627-0272 in sufficient time for a representative to witness:

a. Spudding

b. Cementing casing: **9-5/8** inch **5-1/2** inch

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. Include the API No. assigned to well by NMOCD on the subsequent report of setting the first casing string.

B. CASING:

1. **9-5/8** inch surface casing should be set **at approximately 1100 feet,** below usable water and circulate cement to the surface. If cement does not circulate to the surface, the BLM Roswell Field Office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. Minimum required fill of cement behind the **5-1/2** inch production casing is **sufficient to tie back 500 feet above the uppermost perforation in the pay zone.**

C. PRESSURE CONTROL:

1. Before drilling below the **9-5/8** inch surface casing, the blowout preventer assembly shall consist of a minimum of One Annular Preventer or Two Ram-Type Preventers and a Kelly Cock/Stabbing Valve.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **2000** psi.

3. The BOPE shall be installed before drilling below the **9-5/8** inch surface casing and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

a. The results of the test shall be reported to the BLM Roswell Field Office at 2909 West Second Street, Roswell, New Mexico 88201.

b. Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.

c. Testing must be done in a safe workman like manner. Hard line connections shall be required.

IV. ON LEASE - WELL REQUIREMENTS:

A. The holder shall post signs identifying the location permitted herein with the requirements contained in Onshore Oil and Gas Order #1 and 43 CFR 3162.6.

B. The following data is required on the well sign that shall be posted in a conspicuous place on the well pad. The sign shall be kept up with current identification and shall be legible for as long as the well is in existence:

Operator Name: Yates Petroleum Corporation
Well Name & No.: Jervis "AYB" Federal #2
Lease No.: NM-14293
Footage: 660' FSL & 1140' FEL
Location: Section 11, T. 8 S., R. 26 E.

C. UPON ABANDONMENT OF THE WELL, THE SAME INFORMATION SHALL BE INSCRIBED ON THE DRY HOLE MARKER WITH A BEADED WELD.

D. The approval of the APD does not in any way imply or grant approval of any on-lease, off-lease, or off-unit action(s). It is the responsibility of the holder to obtain other approval(s) such as rights-of-way from the Roswell Field Office or other agencies, including private surface landowner(s).

E. All vehicles, including caterpillar track-type tractors, motor graders, off-highway trucks and any other type of motorized equipment that is used in the construction of the access road and well pad shall be confined to the area(s) herein approved. The drilling rig that is used to drill the well shall also be confined to the approved area(s).

F. **Containment Structure Requirement:**

1. A containment structure or earthen dike shall be constructed and maintained around all storage facilities/batteries. The containment structure or earthen dike shall surround the storage facilities/batteries.

2. The containment structure or earthen dike shall be constructed two (2) feet high around the facilities/batteries (the containment structure or earthen dike can be constructed higher than the two (2) feet high minimum).

3. The perimeter of the containment structure or earthen dike can be constructed substantial larger for greater holding capacity of the contents of the largest tank.

4. The containment structure or earthen dike shall be constructed so that in case of a spill the structure can contain the entire contents of the largest tank, plus 24 hour production, within the containment structure or earthen dike, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

G. **Painting Requirement:**

All above-ground structures (e.g.: meter houses, tanks, above ground pipelines, and related appurtenance, etc.) not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for painting all the well facilities is ***Olive Drab* 18-0622 TPX.**, Supplemental Environmental Colors.

H. **Fence Requirement:**

The holder shall minimize disturbance to existing fences and other improvements on public land. The holder is required to promptly repair impacted improvements to at least their former state. On private surface the holder shall contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates shall be allowed unless approved by the Authorized Officer.

A fence would be constructed around the oil and gas facilities, the fence would be constructed with **bull wire** that is four feet high to prevent the visitor from getting into the facility.

The flow line from the well head to the separator would be buried underground to promote safety within the pad areas during the production phase of the operations.

I. **Open-vent Exhaust Stack Requirements:**

1. All open-vent exhaust stacks associated with heater-treater, separators and dehydrator units shall be modified to prevent birds and bats from entering them and to the extent practical to discourage perching and nesting.

2. New production equipment installed on federal leases after November 1st, 1993, shall have the open-vent exhaust stacks constructed to prevent the entry of birds and bats and to the extent practical, to discourage perching, and nesting.

V. Invasive and Noxious Weeds Requirement:

A. The holder shall be held responsible if noxious weeds become established within the area. Evaluation of the growth of noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipelines, and adjacent land affected by the establishment of weeds due to this action. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

B. The holder shall insure that the equipment and or vehicles that will be used to construct, maintain and administer the access roads, well pad and resulting well are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to construction, maintenance and administration of the access roads, well pad, and resulting well.

VI. SPECIAL REQUIREMENT(S):

A. The holder shall reroute and construct a new OHV trail. The holder shall construct the OHV trail on the north side of well pad were the well pad construction will obliterate the original trail. The OHV trail shall be constructed so that the surface level of the trail does not have any obstruction, or a ditch or low spots in the OHV trail. The OHV trail shall have a continuous defined connection from where the OHV trail begins on the new reroute to the where OHV trail is connected, for as long as this well is in service.

EXHIBIT C

CONDITIONS OF APPROVAL

OPERATOR: Yates Petroleum Corporation
LEASE NO: NM-14293
WELL NAME & NO.: Jervis "AYB" Federal #2
LOCATION: Section 11, T. 8 S., R. 26 E.
QUARTER/QUARTER & FOOTAGE: SE¼SE¼ - 660' FSL & 1140' FEL
COUNTY: Chaves County, New Mexico, N.M.P.M.

GENERAL CONDITIONS OF APPROVAL:

1. The **operator** shall hereafter be identified as the **holder** in these requirements. The Authorized Officer is the person who approves the Conditions Of Approval.

2. The holder shall indemnify the United States against any liability for damage to life or property arising from occupancy or use of public lands under this authorization.

3. The holder shall have surface use approval prior to any construction work on change(s) or modification(s) to the access road and/or well pad. The holder shall submit (Form 3l60-5), Sundry Notice and Report On Wells, an original plus one (1) copy to the Roswell Field Office, stating the basis for any changes to previously approved plans. Prior to any revised construction the holder shall have an approved Sundry Notice and Report On Wells or written authorization to proceed with the change in plans ratified by the Authorized Officer.

4. **Weed Control:**

A. The holder shall be held responsible if noxious weeds become established within the area. Evaluation of the growth of noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipelines, and adjacent land affected by the establishment of weeds due to this action. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

B. The holder shall insure that the equipment and or vehicles that will be used to construct, maintain and administer the access roads, well pad and resulting well are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to construction, maintenance and administration of the access roads, well pad, and resulting well.

5. **Hazardous Substances:**

a. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act Of 1976, as amended (15 U.S.C. 2601, ***et. seg.***) with regard to any toxic substances that are used, generated by or stored on the project/pipeline route or on facilities authorized. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

b. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substances or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, ***et. seg.*** or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, ***et. seg.***) on this project/pipeline (unless the release or threatened release is wholly unrelated to the holder's activity on the pipeline). This agreement applies without regard to whether a release is caused by the operator, its agent, or unrelated third parties.

6. **Undesirable Events:**

If, during any phase of the construction, operation, maintenance, or termination of the authorization, any oil or other pollutants, should be discharged, and impacting Federal land, the control and total removal, disposal, and cleaning up of such oil or other pollutants, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal land, or to repair all damages to Federal land resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

7. **Archaeological, Paleontology, and Historical Sites:**

a. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder shall be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

b. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of the project work, the holder shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The holder or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes. Any unauthorized collection or disturbance of cultural resources may result in a shutdown order by the Authorized Officer.

8. **Sanitation:**

The holder shall be responsible for maintaining the site in a sanitary condition at all times; waste materials shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

9. **Open-top Tanks:** Any open-top tank containing oil and/or toxic fluids shall be covered with netting or equipped to prevent birds, bats, and other wildlife from entering the open-top tank.

10. **Other:** None

EXHIBIT D

PERMANENT RESOURCE ROAD REQUIREMENTS

Operator: Yates Petroleum Corporation
BLM Serial Number: NM-14293
Well Name & No.: Jervis "AYB" Federal #2
Location: Section 11, T. 8 S., R. 26 E.
660' FSL & 1140' FEL, Chaves County, N.M., N.M.P.M.

The holder agrees to comply with the following requirements:

1. GENERAL REQUIREMENTS:

A. The **operator** shall hereafter be identified as the **holder** in these requirements. The Authorized Officer is the person who approves the Permanent Resource Road Requirements.

B. The holder shall minimize any disturbance to structures on public domain surface. Damages caused to any structure during road construction operations shall be promptly repaired by the holder. Functional use of any structure shall be maintained at all times. The holder shall make a documented good-faith effort to contact the owner prior to disturbing any structure.

C. When necessary to pass through an existing fence line, the fence shall be braced on both sides of the passageway prior to cutting and the fence shall be promptly repaired to at least it's former state or to a higher standard than it was previously constructed.

D. A professional engineer shall design the access road if the road grade exceeds 10 percent slope.

2. INGRESS AND EGRESS:

The access road shall be constructed to access the well pad on the **Southwest** corner of the well pad to comply with the planned access road route.

3. ROAD TRAVELWAY WIDTH:

On a nonsurfaced road the travelway of the road shall not exceed the construction of a **14** foot wide road.

4. NON-SURFACING:

A. **Surfacing material is not required on the new access road travelway.** The Holder has the option to surface the access road if the Holder considers it necessary. Should the Holder elect to surface the access road, the Holder shall submit a Sundry Notices And Reports On Wells requesting approval for a change in the conditions of approval to surface the access road.

The Holder shall obtain written approval from the Authorized Officer prior to surfacing (Call 505-627-0340). The surfacing material, depth and type, will be determined at the time of approval.

B**.** The nonsurfaced access road shall have a travelway which creates the smallest possible surface disturbance and does not exceed 14 feet in width. No drive-arounds with the exception of turnouts, are allowed outside the travelway.

C. The Authorized Officer reserves the right to require surfacing of the access road at any time if deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

D. If the new access road is not surfaced, no improvements shall be made on the access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

E. The holder shall surface and perform maintenance on all pre-existing surfaced access road(s) on federal surface prior to drilling operations. Surfacing is required on all other federal pre-existing surfaced roads beginning from the dedicated road (county road and/or state highway) to the beginning of the new access road construction.

5. CROWNING AND DITCHING (On Surfaced Roads Only):

Crowning with materials on site and ditching on one side of the road, on the uphill side, shall be required. The road cross section shall conform to the cross section diagrams in Figure 1 (attached page 6). Where conditions dictate, ditching shall be required on both sides of the road. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road).

6. DRAINAGE: **<u>No lead-off ditches are required for this road.</u>**

A. Drainage control shall be ensured over the entire road through the construction of ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings.

B. All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval for lead-off ditches shall be determined according to the following table, but may be amended depending upon existing soil types and centerline road slope (in %):

PERCENT SLOPE AND SPACING INTERVALS FOR LEAD-OFF DITCHES:

Percent slope	Spacing interval
0 - 4%	150' - 350'
4 - 6%	125' - 250'
6 - 8%	100' - 200'
8 - 10%	75' - 150'

CROSS SECTION OF TYPICAL LEAD-OFF DITCH

1' MINIMUM DEPTH

BERM NATURAL GROUND SURFACE

C. A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

D. On road slopes exceeding 2%, water flow shall drain water into an adjacent lead-off ditch. Water flow drainage location and spacing shall be determined by the following formula:

FORMULA FOR SPACING INTERVAL OF LEAD-OFF DITCHES:

$$\text{spacing interval} = \frac{400'}{\text{road slope in \%}} + 100'$$

Ex. 4% slope: $\text{spacing interval} = \frac{400}{4} + 100 = 200 \text{ feet}$

7. CULVERT INSTALLATION: **No culverts are required on this road.**

ONE (1) CULVERT SHALL BE INSTALLED AT THE DEEP WATERWAY CHANNEL FLOW CROSSING IN THE XX¼XX¼ OF SECTION - T. S. - R. E. (SEE EXHIBIT A - LOCATION MAP).

Culvert pipes shall be used where ravines, arroyo gullies, and deep waterway channel flows are crossed by the access road construction route. The culvert(s) shall not be less than XX inches in diameter (minimum 18 inch culvert). The location for the culvert installation is designated on the attached map - **EXHIBIT A**. (A culvert pipe installation diagram shall be attached to this requirement when a culvert is required to be installed, see EXHIBIT - X).

8. TURNOUTS: **No Turnouts Are Required On This Road.**

Vehicle turnouts shall be constructed on all single lane roads (unless the Authorized Officer determines that the turnouts are not required). Turnouts shall be intervisible and shall be constructed on all blind curves with additional turnouts as needed to keep spacing below 1000 feet. Turnouts shall conform to the following diagram:

STANDARD TURNOUT - PLAN VIEW

14´ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ CENTERLINE OF ROAD TRAVELWAY _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

---10---

25' 50' 25'

9. CATTLEGUARDS: **NONE REQUIRED**

A. ONE (1) CATTLEGUARD SHALL BE INSTALLED AT THE FENCE CROSSING IN THE XX¼XX¼ OF SECTION - T. S. - R. E. (SEE EXHIBIT A - LOCATION MAP).

B. A cattleguard installation diagram shall be attached to this stipulation when a cattleguard is required to be installed - see EXHIBIT X - DIAGRAM A & B).

C. The existing cattleguard(s) on the access road shall be replaced if they are damaged from heavy vehicular traffic use and the Authorized Officer determines that a new cattleguard shall be installed where the existing in place cattleguard(s) have deteriorated beyond practical use. The holder shall be held responsible for the condition of the existing in place cattleguard(s) that are utilized for vehicular traffic use on lease operations by the holder.

D. Where used, all cattleguard grids and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) Load Rating H-20, although AASHTO U-80 rated grids shall be required where heavy loads, (exceeding H-20 loading,) are anticipated. (See BLM standard drawings for cattleguards – Exhibit X – Diagram A & B). Cattleguard grid length shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum width) will be provided on one side of the cattleguard unless requested otherwise by the surface user.

10. MAINTENANCE:

A. The holder shall maintain the road in a safe, usable condition. A maintenance program shall include, but not be limited to blading, ditching, culvert installation and cleaning, cattleguard maintenance, surfacing and weed control.

B. The holder shall cooperate with other authorized users in maintenance of the road(s). Failure of the holder to share maintenance costs in dollars, equipment, materials, and manpower proportionate to the holders use with other authorized users may be adequate grounds to terminate the road use. The determination as to whether maintenance expenditures have been withheld by the holder and the decision to terminate the road use shall be at the discretion of the Authorized Officer. Upon request, the Authorized Officer shall be provided with copies of any maintenance agreements entered into by the holder.

11. PUBLIC ACCESS:

A Public access on this road shall not be restricted by the holder without specific written approval being granted by the Authorized Officer. Gates or cattleguards on public land shall not be locked or closed to public use unless closure is absolutely necessary and is authorized in writing by the Authorized Officer.

12. ROAD REHABILITATION REQUIREMENTS:

A. SEE -SURFACE RECLAMATION/RESTORATION REQUIREMENTS - Exhibit E.

13. SPECIAL REQUIREMENT(S): NONE

EXHIBIT E

SURFACE RECLAMATION/RESTORATION REQUIREMENTS

OPERATORS NAME: **Yates Petroleum Corporation** LEASE NO.: **NM-14293**
WELL NAME & NO: **Jervis "AYB" Federal #2**
QUARTER/QUARTER & FOOTAGE: **SE¼SE¼ - 660' FSL & 1140' FEL**
LOCATION: **Section 1, T. 8 S., R. 26 E.**
COUNTY: **Chaves County, New Mexico, NMPM**

I. GENERAL PROVISIONS:

A. The operator has the right of administrative review of these requirements pursuant to 43 CFR 3165.1(a).

B. The operator shall hereafter be identified as the holder in these requirements. The Authorized Officer is the person who administers the reclamation requirements.

C. The holder shall comply with all the surface reclamation/restoration required by the Authorized Officer pertaining to the reclamation/restoration of the access road and well pad.

II. FORM 3l60-5, SUNDRY NOTICES AND REPORTS ON WELLS:

A. The holder shall adhere to the following:

1. If the well is not drilled, please notify the BLM so that an official release can be approved.

2. **Downhole requirement**: If the well is a dry hole and will be plugged, approval of the proposed plugging program may be obtained orally. However, oral approval must be confirmed in writing by immediately filing a Sundry Notice And Report On Wells (Form 3l60-5) **"Notice of Intention to Abandon"**, an original and five (5) copies shall be submitted to the Roswell Field Office. The report should show the total depth reached, the reason for plugging, and the proposed intervals, by depths, where plugs are to be placed, type of plug, type of plugging mud, etc..

3. The same notification shall be required of the Holder for the reclamation/restoration of the access road and well pad. The Holder shall initially report surface reclamation/restoration of the access road and well pad concurrently with the Downhole requirement. A Sundry Notice And Report On Wells (Form 3l60-5) **"Notice of Intention to Abandon"**, an original and five (5) copies shall be submitted to the Roswell Field Office. Upon receipt of the **"NOI"** the Authorized Officer shall provide the holder with the specific requirements for the reclamation/restoration of the access road and well pad.

4. **Subsequent Report Of Abandonment:** The holder shall submit a second report on Form 3l60-5, Sundry Notices and Reports On Wells, an original and five (5) copies shall be submitted to the Roswell Field Office, pertaining to the reclamation/restoration of the access road and well pad. The holder shall demonstrate that the surface reclamation/restoration requirements have been complied with. The holder shall specify that the reclamation work accomplished the restoration of the disturbed areas to as near the original surface condition the land was in prior to construction of the access road and well pad.

5. **Final Abandonment Notice:** The holder shall submit a third report on Form 3l60-5, Sundry Notices and Reports On Wells, an original and five (5) copies shall be submitted to the Roswell Field Office, that shall ascertain that all surface reclamation/restoration requirements have finally been completed and that the access road and well pad are ready for final inspection. The holder shall specify that the surface has been reclaimed in accordance with federal regulations and request for the final approval of the access road and well pad.

III. BOND LIABILITY:

A. Liability under bond shall be retained until all surface reclamation/restoration of the access road and well pad has been completely reclaimed to the satisfaction of the Authorized Officer.

IV. ACCESS ROAD AND WELL PAD RECLAMATION REQUIREMENTS:

1. If the well is completed, all areas of the well pad not necessary for operations shall be reclaimed to resemble the original contours of the surrounding terrain.

2. Upon abandonment of the well, cut-and-fill slopes shall be re-contoured and reduced to a slope of 3:1 or less. The road shall be recontoured to as near the original topography, as possible.

3. Upon abandonment of the well, all production equipment shall be removed from the well pad and properly disposed of.

4. The new access road is a non surfaced road, should the road be surfaced, upon abandonment of the well, the surface material (caliche) shall be removed from the access road and the well pad. The removal of surface material shall be done with the minimal amount of mixing of the caliche or gravel material with the in place subsurface soils.

5. The surfacing material that is removed can be used on existing surfaced roads in need of maintenance, or hauled to a federal material pit for disposal. If the material is to be used on a road or hauled to a material pit, contact the BLM Authorized Officer at (505) 627-0272 for possible additional requirements.

6. Upon removal of the surfacing material, the access road and well pad shall be ripped a maximum of **16** inches deep (Ripping depth will be determined by depth of soil shown in the Soil Conservation Service Survey Handbook).

7. All culverts and other road structures (e.g.: cattleguard, H-Braces, signs, etc.) shall be removed and properly disposed of.

8. All over-burden material shall be replaced in the cut areas, ditches, lead-off ditches, and any other excavated earthwork shall be back filled.

9. An earthen berm shall be constructed at the entrance of the road to prevent vehicular traffic on the reclaimed road.

V. Reserve Pit Reclamation Requirements:

A. Upon reclamation of the reserve pit, the impervious, reinforced, synthetic or fabricated **12** mil in thickness liner shall be used to encapsulate the reserve pit cuttings.

B. The dried cuttings in the reserve pit shall be buried a minimum depth of three (3) feet below ground level.

C. The reserve pit area shall be covered with a three (3) feet minimum cap of clean soil or like material that is capable of supporting native plant growth. Once the reserve pit contents have been capped, the cap shall not be disturbed without NMOCD approval.

D. Should the cuttings in the reserve pit not meet the three (3) feet below ground level depth, the excess contents shall be removed from the reserve pit until the required minimum depth of three (3) feet below ground level requirement has been met. The excess cuttings shall be removed from the well location and shall be properly disposed of at an authorized disposal site.

E. Contact Randy Legler at (505) 627-0215, three days before commencing the reserve pit reclamation.

VI. SEEDING REQUIREMENTS:

A. The stockpile of topsoil shall be spread over the well pad to cultivate a seed bed. The holder shall not contaminate the topsoil stockpile with the reserve pit muds and/or cuttings.

B. The reclaimed area(s) shall be seeded with the seed mixture that was determined by the Roswell Field Office for the Desired Plant Community on this well site.

C. The same seed mixture shall be used for the reclamation of the access road and well pad.

D. The planting of the seed shall be done in accordance with the following seeding requirements:

1. The topsoil shall be plowed under with soil turning equipment and the plowed surface shall be disked before seeding. Seed shall be planted using a drill equipped planter with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area. Smaller/heavier seed has a tendency to drop to the bottom of the drill and is planted first; the holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre noted below are to be doubled.

2. The holder shall seed all the disturbed areas with the DPC seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed per acre, (Pounds of pure live seed per acre: pounds of seed X percent purity X percent germination = pounds pure live seed). There shall be no primary or secondary noxious weeds in the seed mixture.

In accordance with State law(s) the seed should be tested for purity and viability within nine (9) months prior to sell. Commercial seed shall be either certified or registered seed. The seed mixture container shall be tagged in accordance with State law(s) and the certified seed tag shall be made available for inspection by the Authorized Officer.

3. **Desired Plant Community** seed mixture to be planted in pounds of pure live seed per acre:
Soil: Sotim-Simona association, moderately undulating
Ecological Site: Shallow Sand SD-3 & Sandy SD-3

Common Name and Preferred Variety	Scientific Name	Pounds of Pure Live Seed Per Acre
Black grama	*(Bouteloua eriopoda)*	3.00 lbs.
or Blue grama, var. Lovington	*(Bouteloua gracilis)*	
Sideoats grama	*(Bouteloua curtipendula)*	2.00 lbs.
var. Vaughn or El Reno		
Sand dropseed	*(Sporobolus cryptandrus)*	1.50 lbs.
or Mesa dropseed	*(S. flexuosus)*	
or Spike dropseed	*(S. contractus)*	
Desert or Scarlet	*(Sphaeralcea ambigua)*	1.00 lb.
Globemallow	or *(S. coccinea)*	
Croton	*(Croton* spp.)	1.00 Lb.
TOTAL POUNDS PURE LIVE SEED PER ACRE		8.50 lbs.

4. If one species is not available, increase ALL others proportionately. The seed mixture shall be certified weed free seed. A minimum of 4 species is required, including 1 forb species.

E. The recommended time to seed is from June 15th through September 15th. The optimum seeding time is in mid-July. Successive seeding should be done either late in the fall (Sept. 15th - Nov. 15th, before freeze up) or early as possible the following spring to take advantage of available ground moisture. However, the holder may seed immediately after completing surface abandonment requirements.

F. The seeding of the disturbed areas shall be repeated until a vegetation thicket is established on the access road and well pad. The Authorized Officer shall make the determination when the regrowth on the disturbed areas is satisfactory.

G. The holder shall be responsible for the establishment of vegetation on the access road and well pad. Evaluation of vegetative growth will not be made before the completion of the first growing season after seeding. The Authorized Officer reserves the right to require reseeding at a specific time if seed does not germinate after one growing season. Waiver of this requirement would be considered if diligent attempts to revegetate the disturbed areas have failed and the Authorized Officer determines that further attempts to replant the access road and well pad are futile.

H. Contact Mr. Randy Legler at (505) 627-0215 to witness the seeding operations, two (2) days prior to seeding the disturbed areas.

I. <u>Invasive and Noxious Weeds Requirement</u>:

1. The holder shall be held responsible if noxious weeds become established within the reclaimed areas. Evaluation of the growth of noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land where noxious weeds exist, which includes the road, pad, associated pipeline corridor/routes, and adjacent land affected by the establishment of weeds due to this action. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

2. The holder shall insure that the equipment and or vehicles that will be used to reclaim the access roads and well pad are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to reclamation of the access roads and well pad.